

Applicants : Steven H. Peterson et al  
Serial No. : 10/669,110  
Page No. : 2

### CLAIMS

1. (Original) A color measurement instrument comprising:  
  
    illuminator means for illuminating a sample;  
  
    color measurement means for measuring light reflected from said sample;  
  
    temperature changing means for changing the temperature of said illuminator means;  
  
    temperature sensing means for sensing the temperature of said illuminator means; and  
  
    control means responsive to said temperature sensing means for controlling said  
temperature changing means to control the temperature of said illuminator means.
2. (Original) A color measurement instrument as defined in claim 1 wherein said  
illuminator means includes a light emitting diode (LED).
3. (Original) A color measurement instrument as defined in claim 1 wherein said  
illuminator means includes an illuminator and a thermally conductive base supporting said  
illuminator.
4. (Original) A color measurement instrument as defined in claim 3 wherein said  
temperature changing means and said temperature sensing means are mounted on said base.
5. (Original) A color measurement instrument comprising:  
  
    an illuminator;  
  
    a color measurement engine; and  
  
    control means for actively controlling the temperature of said illuminator.
6. (Original) A color measurement instrument as defined in claim 5 wherein said  
illuminator includes a light emitting diode (LED).

Applicants : Steven H. Peterson et al  
Serial No. : 10/669,110  
Page No. : 3

7. (Original) A color measurement instrument as defined in claim 5 wherein said illuminator further includes a thermally conductive base, said control means coupled to said base.

8. (Original) A color measurement instrument as defined in claim 7 wherein said control means includes:

a temperature sensing element supported by said base; and

a temperature changing element supported by said base.

9. (Original) A method of measuring color comprising the steps of:  
illuminating a sample with at least one illuminator;  
measuring light reflected from the sample; and  
controlling the temperature of the at least one illuminator to enhance the uniformity of  
at least one output characteristic.

10. (Original) A method as defined in claim 9 wherein:  
the at least one illuminator comprises a light emitting diode (LED); and  
the at least one output characteristic includes intensity, spectral energy distribution,  
and spatial distribution of the light from the LED.

11. (Original) A method as defined in claim 9 wherein said controlling step includes:  
measuring the temperature of the illuminator;  
comparing the temperature of the illuminator with a desired temperature; and  
applying heating or cooling to the illuminator depending on said comparing step.

Claims 12-20 (Canceled).